

Children in the Bottom of Income Distribution in Europe: Risks and Composition

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Office of Research - Innocenti Working Paper

WP-2016-12 | April 2016

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Toczydlowska, E. (2016). Children in the Bottom of Income Distribution in Europe: Risks and Composition, *Innocenti Working Paper* No. 2016-12, UNICEF Office of Research, Florence.

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CHILDREN IN THE BOTTOM OF INCOME DISTRIBUTION IN EUROPE: RISKS AND COMPOSITION

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Abstract: In the context of increasing child poverty, deprivation rates and the relative child income gap, and with the most economically vulnerable children hit extensively by the crisis (Chzhen 2014), this paper sets out to understand who are the most disadvantaged children. Analysis of the composition of the children at the bottom end of the income distribution illustrates that households with a lone parent, at least one migrant member, low work intensity, low education, or in large families are overrepresented in the first decile to different degrees in European countries. The analyses also reveal immense differences in living standards for children across Europe. In European countries included in the analyses, at least 1 in 5 children in the poorest decile lives in a deprived household. A closer look at the different dimensions of deprivation at the child-specific level, reveals what living in the poorest decile means for children's everyday life. Children in the bottom end of the income distribution are prone to a lack of a suitable place to study or do homework. The shares of children in the poorest decile living in a household that cannot afford fruit and vegetables daily or one meal with meat or protein at least once a day are worryingly high. They can also be considered to be deprived in relation to social aspects such as insufficient resources at home to provide regular leisure activity, or to invite friends to play or eat from time to time, or to participate in schools trips and school events that cost money.

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1. INTRODUCTION

Poverty is harmful to children (Brooks-Gunn and Duncan 1997) and often has longer term consequences (Gregg and Machin 2001; Corak 2006; Esping-Andersen and Myles 2009). The impact depends on the depth and longevity of poverty experience and the age at which a child experiences it. The risk of poverty is increasing. The European Union (EU) Social Protection Committee (2014) reports a significant increase in the rate of relative child poverty or social exclusion between 2008 and 2012 in two-thirds of the member states. The increasing risk of poverty and the need to address disadvantage early is one of the reasons why child poverty has been high on the political agenda of the EU, leading to the adoption of the European Commission Recommendation “Investing in Children: Breaking the Cycle of Disadvantage” (2013).

Effective policy responses to alleviate child poverty depend not only on a good understanding of who are the disadvantaged children at the bottom of the income distribution, but also to what extent poor children differ in the levels of material deprivation compared to other children. In relative terms, child income poverty is difficult to tackle, as a population with an income below 60% of the national median will always exist. The imperative policy questions are how far behind are children allowed to fall with relation to the average child in the society, and who are the most vulnerable and most disadvantaged children? Is there a point beyond which falling behind is not inevitable but is, instead, policy susceptible, not unavoidable but unacceptable? (UNICEF 2010). For this reason the focus of this paper are children in the lowest decile. These children not only live in low-income families but are also expected to be considerably disadvantaged with relation to the average child in their country. Hence, this analysis aims to profile children left behind at the bottom end of the income distribution according to characteristics of the households they live in. Children at the bottom end of the income distribution are those in the poorest income decile in each country

Recent results illustrate that the poorest children fell even further behind the average child during the economic crisis. The relative child income gap in Europe increased in 20 European countries between 2008 and 2013 (Toczydlowska et al. 2016). The relative income gap defined as a difference between the median and the lowest 10th percentile expressed as a percentage of the median, ranges from 37% in Norway to 67.1% in Romania. The child in Romania located in the poorest decile holds approximately only 37% of the income of the child at the middle of the income distribution. In countries such as Lithuania, Poland and the Slovak Republic, the level of income of the child in the poorest decile is about half of the median child income in the country.

There is also evidence that children suffered excessively during the Great Recession. Across the OECD area, recent statistics highlight that children and young people were the groups hit hardest by economic downturn (OECD 2014). Child poverty and severe deprivation increased faster for children than for the population as a whole in many countries and notably in those most affected by the crisis (Chzhen 2014, 33). Furthermore, the impact of adverse economic circumstances was not dispersed equally among households with children. Child poverty and

deprivation rates often rose faster or decreased more slowly among children in lone parent families, workless households and migrant families than among the rest of the child population. This pattern was particularly strong in the countries suffering the greatest increase in child poverty or severe child deprivation over this period, suggesting that the most economically vulnerable children were hit excessively by the crisis (Chzhen 2014). Moreover, these types of households have been consistently identified as the most vulnerable to poverty. Considerable differences in the risk of poverty persisted among households with children long before the start of the Great Recession. It has been recognised that children in workless households, lone parent families, large families (those with three or more children), and households with lower educated adults were particularly prone to poverty (Atkinson and Marlier 2010; Fusco, Guio, and Marlier 2010; Social Protection Committee 2008; Bradshaw et al. 2012). Among children in lone parent families, those in single-unit female-headed households, large families and those where the parent did not work full-time were more likely to be poor or deprived (Bradshaw and Chzhen 2015). Children in households headed by migrant adults were also consistently more likely to be poor (Tárki-Applica 2010).¹

Analysis of the children in the bottom end of the income distribution is vital to understand the unequal effects of the impact of the crisis among households with children, and the degree to which those in workless households, migrant households, lone parent families, and large families are at a greater risk of poverty and deprivation. Further, in the light of an increasing relative child income gap in most European countries (Toczydlowska et al. 2016), there is a need to analyse the profile of the most economically deprived children, to understand who fall into the poorest decile, at the bottom end of the income distribution. It is anticipated that children in the lowest decile of the income distribution will have higher rates of deprivation than other children and that they live in the types of households that had already been more vulnerable before the crisis, and have been hit hardest by the economic downturn.

In order to understand who are the most disadvantaged children, this analysis will profile children in the poorest decile in each country with respect to characteristics of the households they live in. These will include family structure (single parent), family (household) size, migration status or parents' employment (low work intensity) and education.² Further, the paper will assess the relative importance of these characteristics in determining relative disadvantage, and consider whether these features are common across European countries. Additionally, it compares the rates of child material deprivation for the most disadvantaged with that of the total child population. It will also look at child-specific items in Europe over four years to analyse the changes during the Great Recession specific to different dimensions of child material deprivation (based on EU-SILC 2009 and EU-SILC 2013 child-specific material deprivation module).³ This will illustrate how deprivation translates into childhood experience.

¹ In countries that have sufficiently large migrant populations to obtain reliable estimates from household surveys.

² The paper use the term family and household interchangeably, although it is understood that they are not the same.

The analyses do not distinguish within households which are families and households with children which are not families.

³ The EU-SILC 2013 child-specific material deprivation module is optional, hence the number of countries analysed is limited.

2. METHODOLOGY AND DATA

The study uses micro-data from the European Union Statistics on Income and Living Conditions (EU-SILC) 2009 and 2013 for 31 European countries (EU-28, plus Iceland, Norway and Switzerland).⁴ EU-SILC is the main source of comparative statistics on poverty and social exclusion in the European Union. The analysis uses equivalised disposable household incomes for children aged 0 to 17 in order to identify those at the bottom end of income distribution. Incomes are expressed in Euro in the EU-SILC data, equivalised using the modified OECD scale. The children who are left behind, also referred to as the poorest children, or the children in the bottom end of the income distribution, are those in the poorest decile, i.e. with incomes falling below the 10th percentile in each country.

The analyses identify the proportion of children in the poorest decile living in a household with specific characteristics, which are defined as follows:

- 'Large families' are defined as those with three or more children in the household.
- The household is considered to have a migrant status when at least one of its members was born outside the current country of location. This includes inter-EU migrants as well as those born outside the Union.
- The work intensity of the household refers to the number of months that all working-age household members have been working during the income reference year as a proportion of the total number of months that could theoretically be worked by working age adults in the household, that is, those aged 18-59 (or 24-59 if under 24s are dependent children). A household is defined as low work intensity if the time spent in employment is below 20%.⁵
- Lone parent families are those where a parent lives with children under 18, without a spouse/partner, either on their own or within a multi-unit household.⁶
- Low education attainment households refers to those in which the household head has lower secondary education, or below.

In order to assess the importance of these characteristics in determining relative disadvantage and to consider whether these features are common across European countries, probit regression is used to assess the differences in the probability of being in the poorest decile associated with these household characteristics.⁷

Next, child material deprivation rates will be explored. Material deprivation refers to the inability of a household to afford those consumption goods and activities that are typical in a society at a given point in time, irrespective of people's preferences with respect to these items.⁸ Material deprivation

⁴ Details on the structure, content and design of the survey are documented in Eurostat (2009).

⁵ For an exact example of how to calculate work intensity status see Eurostat (2009).

⁶ A more comprehensive definition including multi-unit households is used, following the methodology developed by Chzhen and Bradshaw 2012.

⁷ The dependent variable is child disposable income below the threshold of the 10th percentile, and the independent variables are the dummies for household characteristics; low education, large family, low work intensity, migrant and a lone parent.

⁸ The definition of material deprivation is taken from <http://stats.oecd.org/glossary/detail.asp?ID=7326>.

relates to the affordability of a selection of items (goods or services) that are understood to be necessary or desirable for people to have an 'acceptable' standard of living. The analysis distinguishes between those who are materially deprived as follows; households that cannot afford a certain item and those that do not possess this item for any reason rather than it is not wanted. In EU-SILC, nine items are currently used by the EU to measure material deprivation (Guio, Gordon, and Marlier 2012): 1) to face unexpected expenses; 2) to afford a one-week annual holiday away from home; 3) to pay for arrears; 4) to have a meal with meat or protein every second day; 5) to keep the home adequately warm; 6) to have a washing machine; 7) to have a colour TV; 8) to have a telephone; 9) to have a personal car. Material deprivation rates relate to the share of population living in a household that reports an inability to afford at least three out of the nine items, thus gauging the proportion of individuals whose living conditions are affected by a lack of resources.

Most material deprivation items available in the EU-SILC user database variables are relevant to the situation of children. In the absence of a commonly agreed, dedicated child deprivation indicator, the child deprivation rate in the EU is calculated as the share of children living in households that report their inability to afford at least three out of the nine items listed above. Nonetheless it is necessary to complement child deprivation rates with the evidence reflecting the actual living conditions of children, which, in some circumstances, can differ from those of their parents, as well as to look at the specific dimension of material deprivation e.g. relating to education. The 2009 round of the EU-SILC included a dedicated child-specific deprivation module, which is preferable for the analysis of children's circumstances, as it contains specific material deprivation measures depicting the situation of children (see Bradshaw et al. 2012; Guio, Gordon & Marlier 2012). The children in the poorest decile are profiled for the selected child-specific items, i.e. the share of children in the poorest decile who live in households unable to afford books suitable for the child's age. The proportions are compared for 2009 and 2013, for countries which implemented child-specific supplementary optional variables on material deprivation.⁹

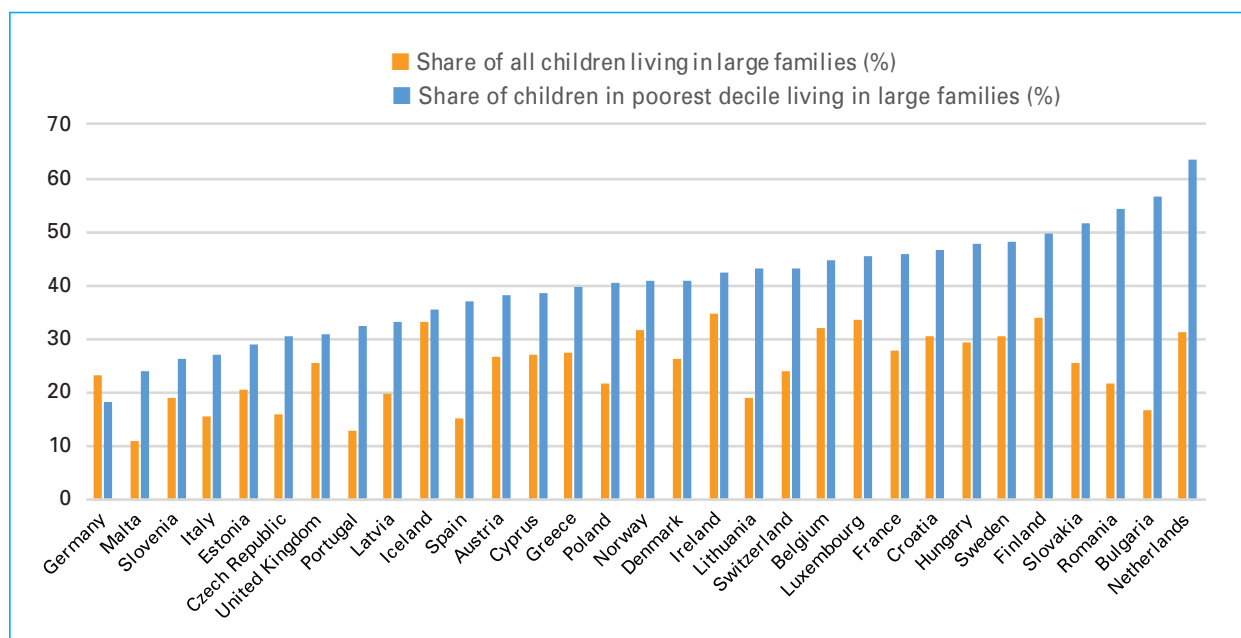
3. RESULTS

Figure 1 demonstrates the percentage of children living in large families and contrasts it with the share of children in the poorest decile in the same kinds of household in 2013. In 23 European countries, the percentage of children living in large families is more than 20%. However, it differs considerably between countries, ranging from 11% in Malta to approximately 35 % in Ireland. More interestingly, in most European countries the percentages of children in large families are much higher for children in the poorest decile than the total child population. In countries such as Bulgaria, the Netherlands, Romania and the Slovak Republic, more than 50% of children in the poorest decile live in large families, as compared to 16.8%, 31.2%, 21.8% and 25.5% respectively for

⁹ For the countries which implemented the module in 2013 EU-SILC. The variables hold for all children aged between 1 and 15 in the household: even if only one child does not have the item, the whole group is assumed not to have the item. The child population in the poorest decile corresponds to children aged 0-17, hence there are slight discrepancies in the samples considered.

the total child population. This illustrates that children living in large families are overrepresented at the bottom end of the income distribution. The only exception is Germany where more children are living in large families overall than in the bottom 10th percentile, 18.2% as compared to 23.2%.

Figure 1 – Share of all children and children in poorest decile living in large families in 2013¹⁰



Source: Author's calculations based on EU-SILC 2013, sorted by the lowest share of children in the poorest decile living in large families.

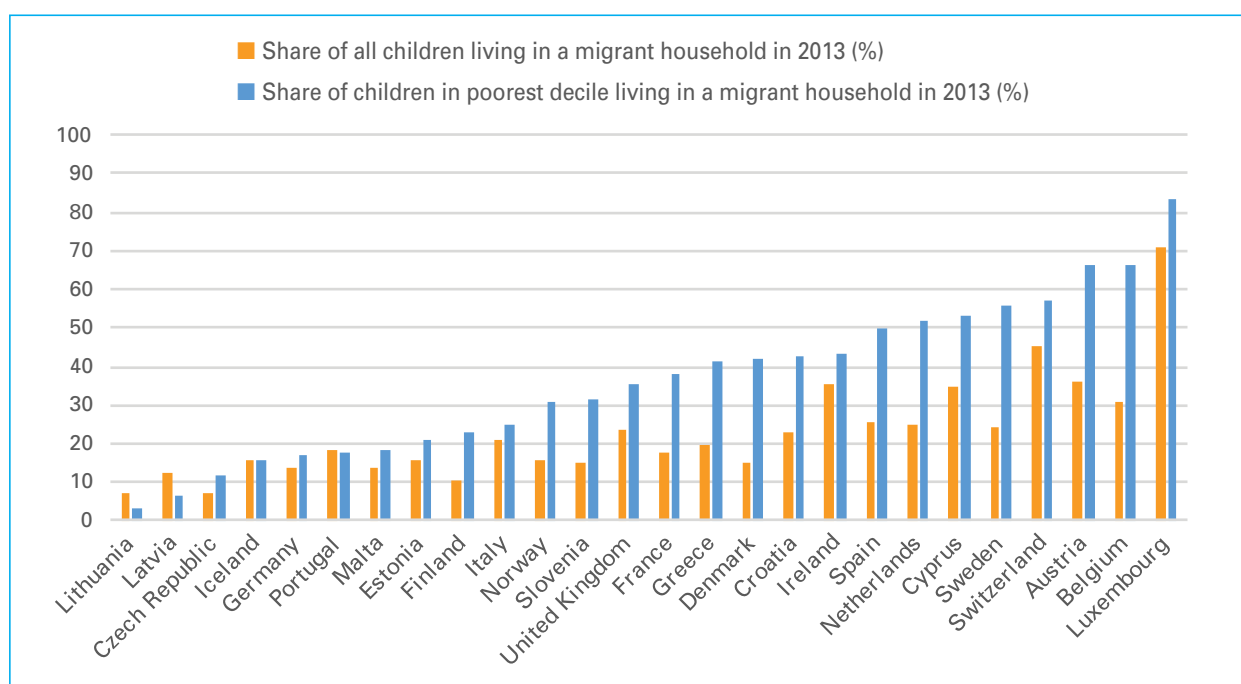
Figure 2 illustrates the proportion of children living in a migrant household and compares it with the proportion of children in the poorest decile residing with at least one migrant in 2013.

The number of children living with at least one migrant adult in the household varies considerably among European countries. In Luxembourg 71% of children live in a migrant household. In Austria, Belgium, Cyprus, Ireland and Switzerland 1 in 3 children cohabit with at least one adult migrant member. On the other hand, in Bulgaria, Hungary, Poland, Romania and the Slovak Republic the share of children living in households with at least one adult migrant is under 5%.¹¹

In Austria, Belgium, Cyprus, Luxembourg, the Netherlands, Sweden and Switzerland more than half of children in the poorest decile live in migrant households. In Luxembourg more than 80% of children with the lowest incomes live in a migrant household. The number is staggeringly high for Austria, Belgium and Switzerland where it is respectively 66.2%, 66.5% and 56.8%. In fact, in more than half of European countries at least 1 in 3 children in the lowest decile lives in a migrant household.

¹⁰ For exact percentages see Table 1 in the Annex.

¹¹ These countries have been excluded from the analysis of the composition of children in the bottom 10th percentile for household migration status as their share of the child population in a migrant household is below 5%.

Figure 2 – Share of all children and children in poorest decile living in a migrant household in 2013 (%)

Source: Author's calculations based on EU-SILC 2013, sorted by the lowest share of children in the poorest decile living in a migrant household.

Note: Bulgaria, Hungary, Poland, Romania and Slovak Republic are excluded as the share of children living in migrant household is under 5% of the sample.

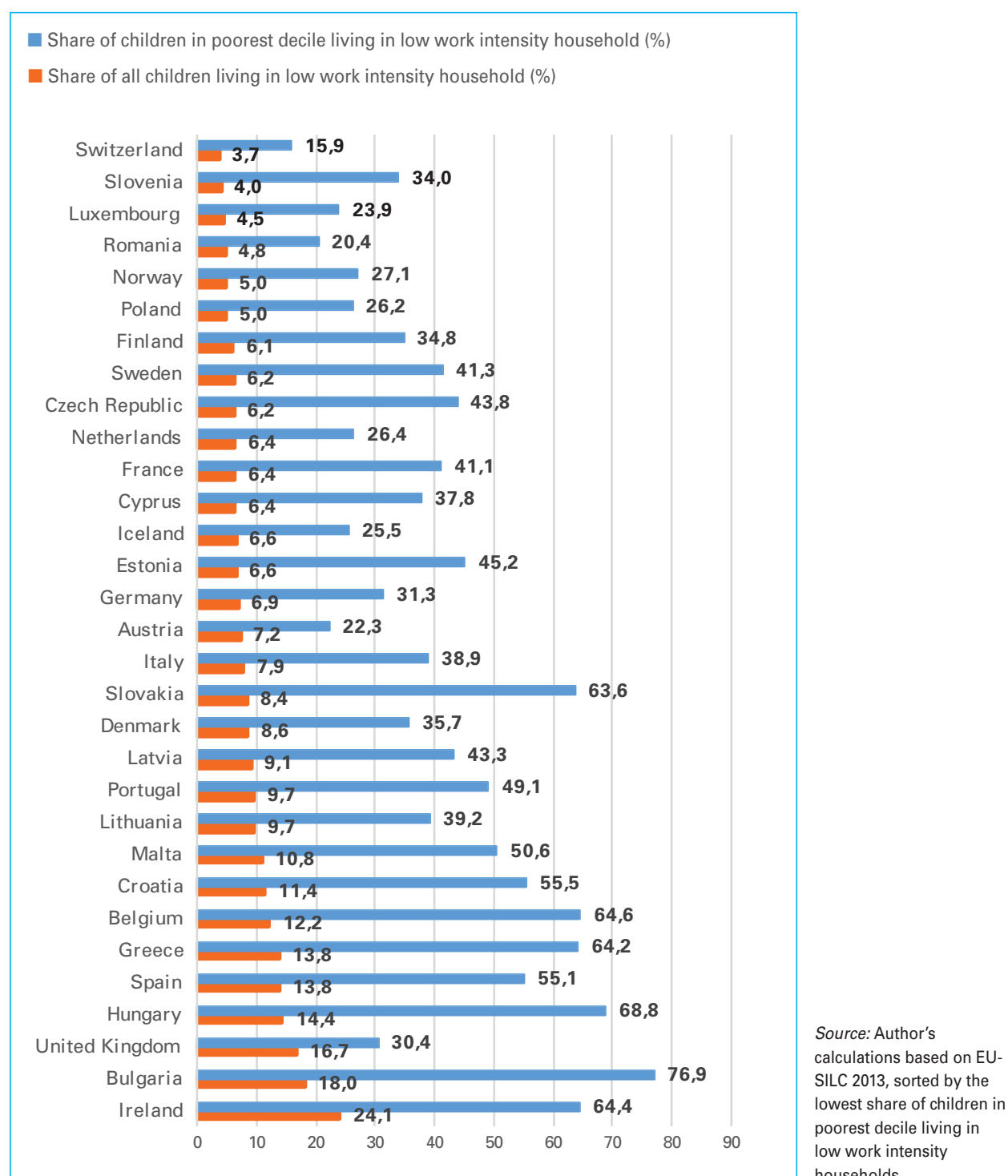
In all the countries, with the exception of Iceland, Latvia, Lithuania and Portugal, the share of children in migrant household is much higher in the poorest decile than for the total child population. For instance in Sweden the share of children living in a migrant household is around 24.4 % and the share of children in the poorest decile living in a migrant household is 56%; this is a difference of 31.6 percentage points (ppt).

Households with children situated in the lowest income decile in the country can also be characterised by their work intensity. Figure 3 shows the proportion of children living in such households. The vast majority of European children in the poorest decile are living in low work intensity households and the percentages are much higher than for the child population as a whole.

Bulgaria illustrates the case in which nearly 77% of children in the poorest decile live in low work intensity households. Other countries such as Belgium, Greece, Hungary, Ireland and the Slovak Republic have percentage rates higher than 60%, and in ten countries approximately one third have rates of 50% and over. Switzerland is the only country in Europe where the percentage of children in the poorest decile living in low work intensity households is less than 20%, specifically 15.9%.

Figure 4 illustrates the percentage of children and children in the poorest decile living in a lone parent family. The share of children living in a lone parent household differs across Europe and is the highest in Latvia where it reaches 26.2% and the lowest in Greece where it is 6.8%. The numbers are considerably higher when children in the bottom 10th percentile are considered.

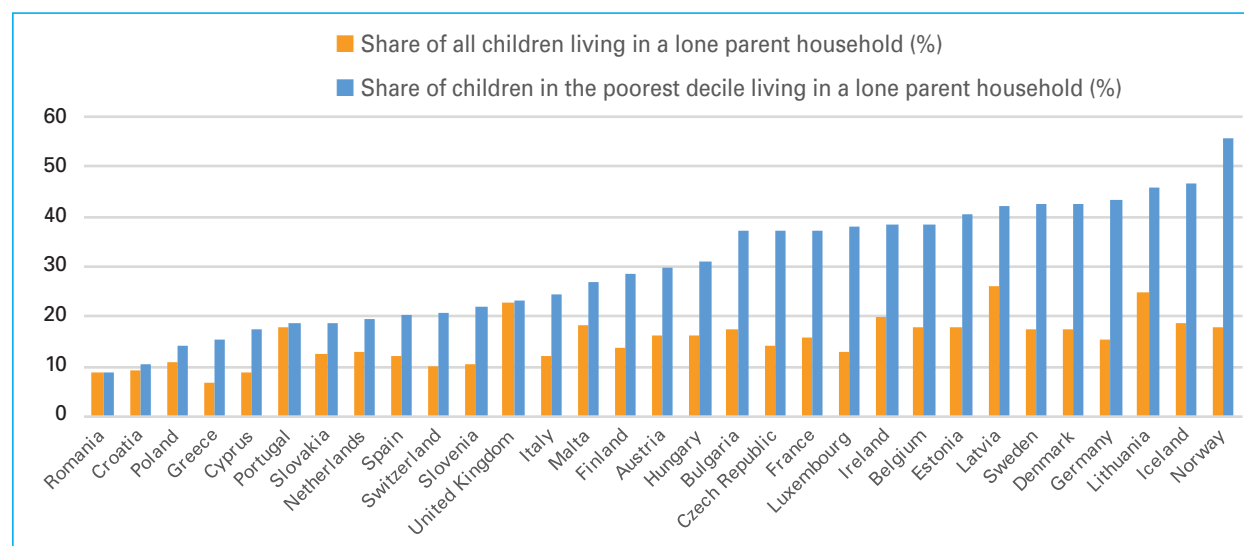
Figure 3 – Share of all children and children in poorest decile living in low work intensity household in 2013



On average, 1 in 10 children in the poorest decile live in a lone parent household rising to more than 50% of children in Norway. In more than half of the European countries considered, at least

one-fourth of children in the poorest decile live with a lone parent. In 13 countries it is more than 30%. In Croatia, Poland and Greece, less than 2 out of 10 children in the 10th poorest percentile live with single parents.

Figure 4 – Share of all children and children in poorest decile living in a lone parent household in 2013



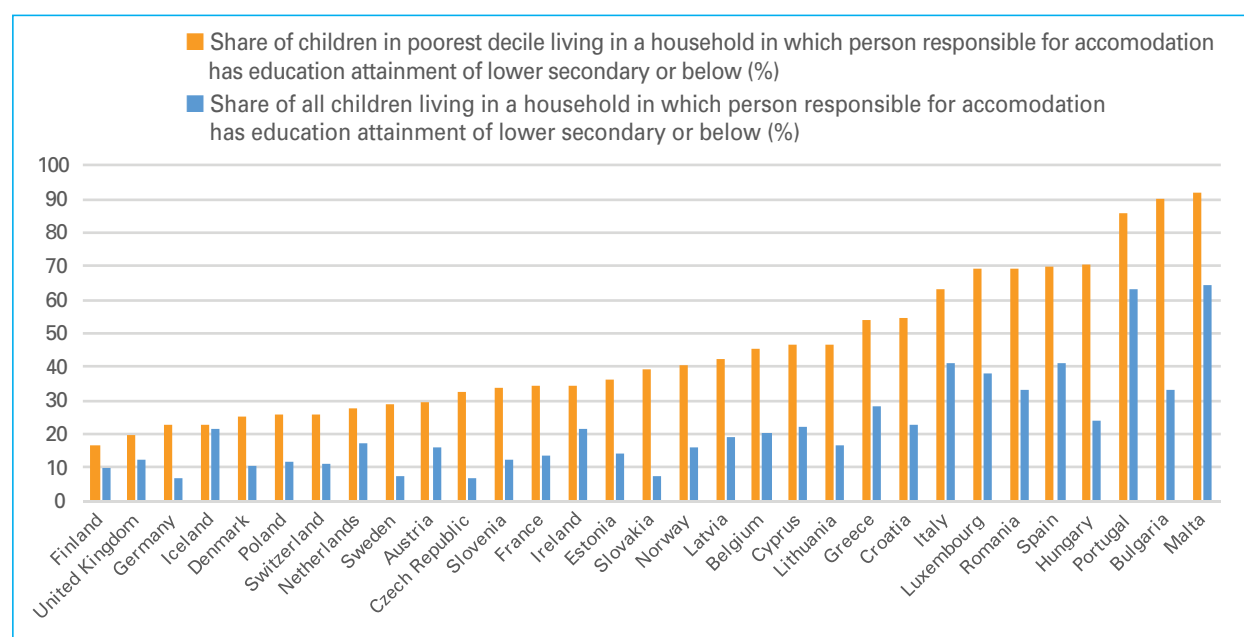
Source: Author's calculations based on EU-SILC 2013, sorted by the lowest share of children in the poorest decile living in a lone parent household. For exact percentages see Table A2 in Annex.

Many children in the bottom end of the income distribution also live in a household in which the household head has lower secondary education or below. The rates are much higher than for the total child population in all the countries (see Figure 5) with the biggest difference in Bulgaria where 90.3% of children in the poorest decile live in low educational attainment households as compared to 35% for the total child population. In general, rates are high with the uppermost being 91.6% in Malta and the lowest in Finland: 16.7%.

Findings regarding the composition of children in the bottom end of the income distribution illustrate that households with a lone parent, at least one migrant member, low work intensity, low education or a large family, are overrepresented to different degrees in different countries in the bottom 10th percentile. What is the probability of being in the poorest decile associated with these household characteristics? Figure 6 illustrates differences in the predicted probability of being in the poorest decile, all else being equal (these are marginal effects of the probit model). Different household characteristics are important to different degrees in different countries. For instance in Sweden, for each kind of household considered, the probability of being in the poorest decile for children who live in households with specific characteristics (e.g. migrant) is relatively high. Hence living in a large family, with a lone parent or in a household with low educational attainment is disadvantageous to a similar degree. On the other hand, in Spain the difference in the probability of being in the poorest decile for a child living with a lone parent is considerably smaller than for a child in a migrant or low education household

(1.9ppt as compared to 6.8ppt and 6.4ppt). There are multiple reasons for a different pattern of risk for children being in the poorest decile across Europe. Children living with a lone parent may be living in multigenerational households or there may be a policy to mitigate hardship for single parents, thus reducing the risk for a child who lives in a lone parent household. The pattern in each country requires further analysis to disentangle the reasons behind the relative disadvantage for each household characteristic and social protection policy responses should consider each aspect. This task is beyond the scope of this paper.

Figure 5 – Share of all children and children in the poorest decile living in a household in which the household head has lower secondary education or below, 2013 (%)



Source: Author's calculations based on EU-SILC 2013.

The results illustrate that the differences in the probability of being in the bottom end income group associated with living in a low work intensity household are greater than differences in the probability of any other household characteristic in all the European countries considered. This shows relative disadvantage for those children who live in a low work intensity household. For instance, in the Slovak Republic children in low work intensity households, holding other characteristics constant, are 63.1 ppt more likely to fall into the poorest decile than children living in households with work intensity that is higher or equal to 20%. Differences in the probability of being in the bottom income decile by household work intensity are highest in Slovenia, closely followed by the Slovak Republic and Estonia. It is lowest in Austria, Luxembourg and the United Kingdom (see Table 1).

Table 1 – Differences in the predicted probability of being in the poorest decile associated with household characteristics in 2013 (ppt)¹²

Country	Low work intensity	Lone parents	Migrant in a household	Large family	Low education
Austria	12.1	7.3	9.4	3.9	4.3
Belgium	38.4	2.9	9.9	2.9	2.5
Bulgaria	24.2	0.7	–	2.4	9.2
Switzerland	18.4	11.6	2.7	10.8	14.3
Cyprus	40.1	6.7	7.2	4.8	10.7
Czech Republic	41.9	8	0.6	4.1	14.5
Germany	25.8	6.7	1.4	-0.4	10.9
Denmark	24.4	13.9	8.1	8.2	5.5
Estonia	52.9	7.8	4.3	3	7.2
Greece	32.3	2.3	8.3	5	7.5
Spain	27.9	1.9	6.8	6.4	5.5
Finland	36.1	8.8	2.5	6.9	8.1
France	45.1	7.3	6.7	6.6	7.2
Croatia	35.9	-2.3	0.9	0.8	8.4
Hungary	32.8	0.4	–	0.6	11
Ireland	18.1	6.6	4.1	2.3	2.5
Iceland	14.7	12.4	7.5	4.4	-1.4
Italy	35.6	6.3	3.4	4.6	6.3
Lithuania	29.5	5.4	-5.7	7.9	8.8
Luxembourg	17.2	13.5	4.7	1.3	4.9
Latvia	35.0	3	-3.5	5.1	9.2
Malta	53.3	-7.3	-7.6	11.9	7.3
Netherlands	24.2	0.5	4.9	6.2	2.9
Norway	21.6	16.9	10	4.4	7.4
Poland	40.0	-4.3	–	9.8	7.8
Portugal	35.0	-1.8	0.8	7.9	5
Romania	27.9	-1.1	–	6	9.7
Sweden	34.9	8.7	10.6	3.8	12.2
Slovenia	66.9	-0.2	10.4	0.4	4.6
Slovak Republic	63.1	-2	–	3.3	4.9
United Kingdom	10.7	-2.4	2.2	2	4.4

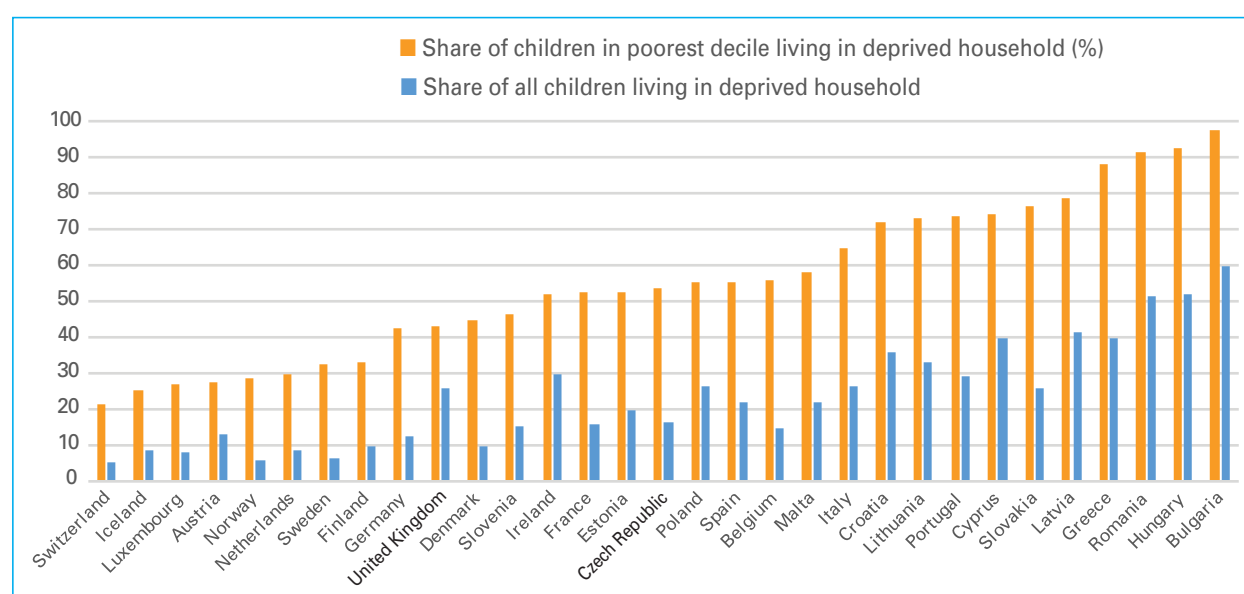
Note: numbers in italics are not statistically significant at 5% level.

¹²The table reports marginal effects estimated by a probit model. For countries where the migrant population is smaller than 5%, being in a migrant household is not controlled for.

4. MATERIAL DEPRIVATION

What does it mean for children to live in a bottom end income group? Are they materially deprived and to what extent do children in the 10th percentile experience material deprivation in different dimensions? This section deals with these questions by illustrating the child material deprivation rates and analysing child specific deprivation items, which help to understand better the situation of the child at the bottom end of the income distribution. Figure 6 demonstrates the comparison of material deprivation rates for total child population¹³ and children in the poorest 10th percentile. The proportion of children living in deprived households differs across European countries with the lowest being 4.9% in Switzerland and highest reaching approximately 60% in Bulgaria. This implies immense differences in living standards for children across Europe.

Figure 6 – Share of all children living in materially deprived households in Europe 2013



Source: Author's calculations based on EU-SILC 2013, sorted by the lowest share of children in the poorest decile living in deprived households.

The numbers are startling when children in the poorest decile are considered. In countries such as Bulgaria, Hungary and Romania more than 90% of children in the bottom 10th percentile are living in deprived households. In Bulgaria the share of children reaches approximately 98% meaning that almost every child in the poorest decile lives in a deprived household. In every country considered, at least 1 in 5 children in the poorest decile lives in a deprived household. The share is lowest in Switzerland, where it reaches 21% - nonetheless, this is still considerably higher than for the total child population (4.9%).

There is a considerable difference between material deprivation rates among all children and those in the poorest decile. It is substantially high in countries such as Greece, Portugal and Slovakia where the rates are respectively 88%, 73.6% and 76.5% for children in the poorest decile and 39.9%, 29.2% and 25.8% for the total child population. In these countries, the gap reaches 48.2, 44.4 percentage points (ppt) and is as high as 50.9 ppt in Slovakia.

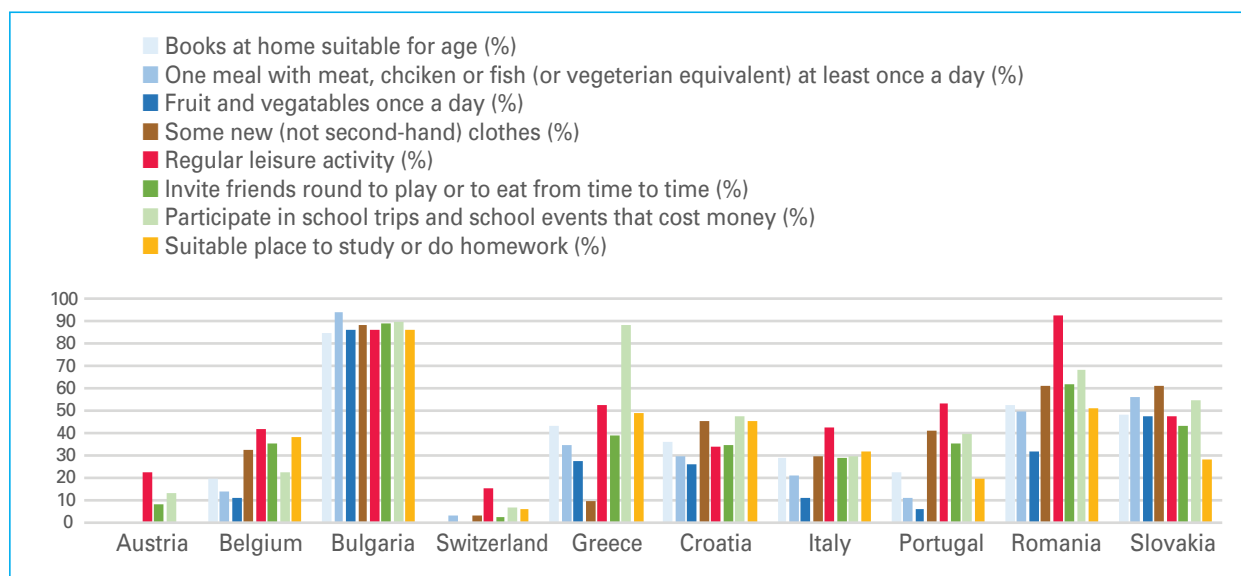
¹³ Child material deprivation rates are identical with those of EUROSTAT, last update 07.12.2015.

In 2013, Austria, Belgium, Bulgaria, Croatia, Greece, Italy, Portugal, Romania, the Slovak Republic and Switzerland collected household data relative to child-specific deprivation, items.¹⁴

The variables hold for all children in a household aged between 1 and 15 and attending school, and relate to specific aspects of deprivation. Even if only one child does not have the item, all children in the household are assumed not to have the item. This enables analysis of material deprivation at child level and allows for a more thorough evaluation of to what extent children in the poorest decile are deprived.¹⁵

Figure 7 illustrates the percentage of children in the poorest decile living in households which cannot afford child-specific items, thus implying deprivation. Child specific deprivation items are: books at home suitable for age, one meal with meat, chicken or fish (or vegetarian equivalent) at least once a day, fruit and vegetables once a day, some new (not second-hand) clothes, regular leisure activity, able to invite friends around to play or eat from time to time, participate in school trips and school events that cost money, and a suitable place to study or do homework. Starting with books at home suitable for the child's age, in all the countries considered, with the exception of Switzerland and Belgium, at least 20% of children in the bottom of the income distribution lack books appropriate for their age because their household cannot afford them. In Romania, it is more than 50% of the poorest children and in Bulgaria it is a startling 84.9%. In countries with higher levels of child median income, such as Greece and Slovakia, the share is as high as 43.2% and 48.4% respectively.

Figure 7 – Percentage of children in the poorest decile living in a household that cannot afford child-specific items.



Source: Author's calculations based on EU-SILC 2013.

Note: For detailed percentages see Table A3 in Annex.

¹⁴ Included in the child-specific optional module in EU-SILC data; Austria did not include all the items.

¹⁵ The results presented below refer to children under 18 who live in households where one or more children fall in the 1-15 age group and had valid information on child-specific deprivation items.

Children in the bottom end of income distribution are also prone to lack a suitable place to study or do homework. The numbers are high in Romania and Bulgaria where they exceed half of the children in the poorest decile and are a staggering 86% and 51.3%. In other countries, such as Croatia and Greece, they are in the high 40s, being respectively 45% and 48.8%, and reach up to one third of children in the poorest decile in others: 38.7% in Belgium, 31.9% in Italy and 28.1% in Slovakia. When cross-referenced with statistics on the lack of suitable books at home, a significant share of children in the lowest part of the income distribution can be considered to be deprived with relation to items facilitating education.

Similarly, the shares of children in the poorest decile living in a household that cannot afford fruit and vegetables once a day, or a meal with meat or protein at least once a day are worryingly high. Almost 50% of the poorest children in Slovakia live in a household that cannot afford to eat fruit and vegetables once a day. In Croatia, Greece and Romania 1 in 3 children in the bottom 10th percentile, and in Italy and Belgium at least 10% of the poorest children lack sufficient fruit and vegetables. The shares are even higher when meals with meat or protein are considered. In Bulgaria it is 89.2 % and in Slovakia more than 50% of the poorest children.¹⁶

Finally, children in the poorest decile can also be considered to be deprived in relation to social aspects if the resources at home are insufficient to provide regular leisure activity or to invite friends to play or eat from time to time, or if they are unable participate in school trips and school events that cost money. In Switzerland, 15.6 % of children from the poorest families live in households that cannot afford regular leisure activity for their children. In Croatia, almost half of the poorest children are unable to participate in school trips and school events that cost money and in Greece this reaches a staggering 88.4%. In Romania, two thirds of the children in the lowest part of the income distribution are unable to invite friends round to play or eat from time to time as it is too costly for their household.

Figure 8 illustrates the share of children living in a household which cannot afford child-specific items related to educational resources. It compares the rates for children in the poorest decile and for the total child population in 2009 and 2013 in the countries that collected child-specific items in 2013.¹⁷ The share of children in the bottom of the income distribution living in households which cannot afford books suitable for the child's age is considerably higher than the share of those deprived in the total child population. For instance in Slovakia the share of children in the poorest decile living in a household deprived of books is 48.4% compared to 11.3% for the total child population, this is a difference of 37.1 ppt. The difference is also considerable in countries such as Bulgaria (38.3ppt), Greece (34.1ppt) and Romania (28.1ppt).

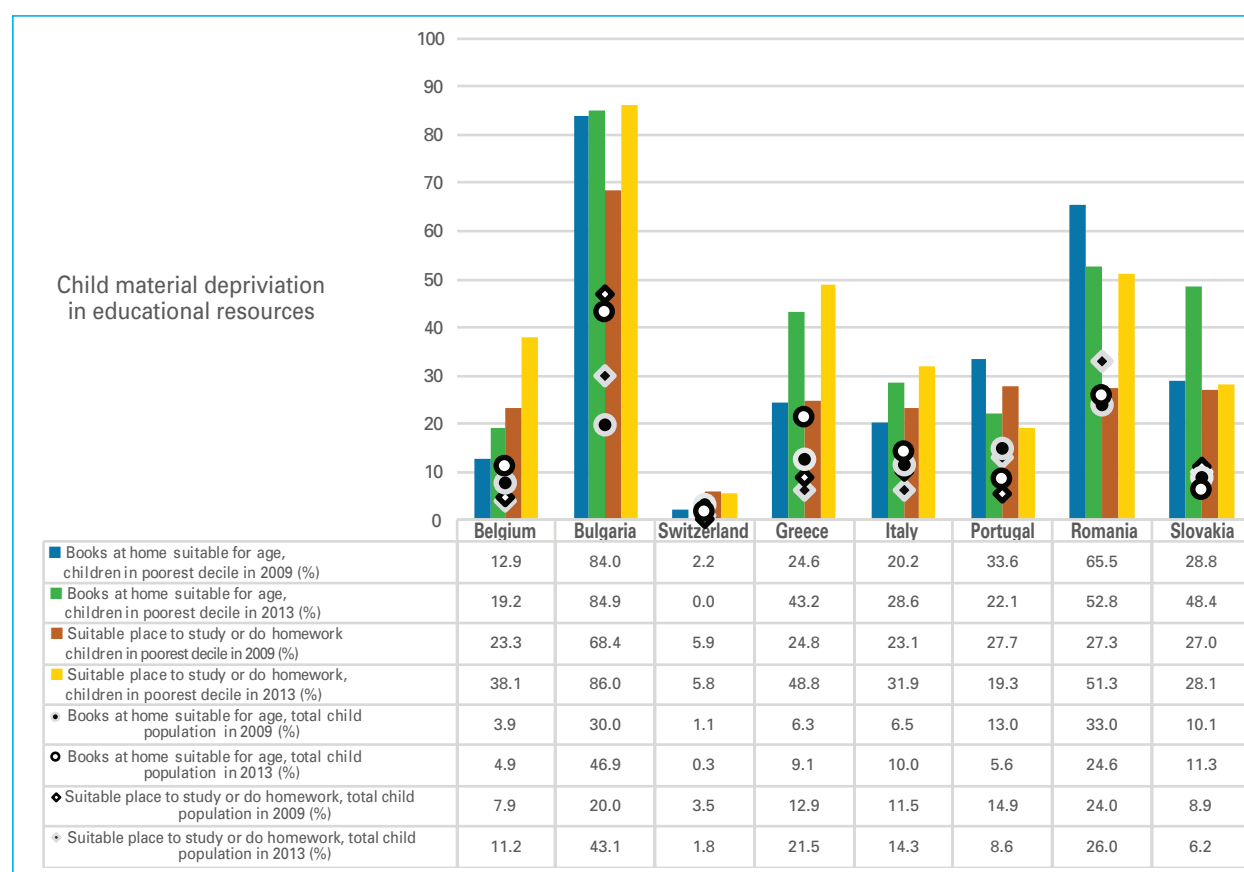
In Bulgaria, the share of children living in a household unable to afford books increased between 2009 and 2013 from 30% to 46.9% meaning that nearly half of the total child population lives in homes deprived of books suitable for their age. Belgium, Greece, Italy and Slovakia are also

¹⁶The share of children will be even higher, as those who don't have an item for any reason other than the household cannot afford it, are not included in the analysis.

¹⁷ Croatia and Austria have been excluded as there is no data for Croatia in 2009 and no data in Austria in 2013.

countries in which the share has increased, with a rise of 0.9, 2.8, 3.4, and 1,2 ppt respectively. On the other hand the situation has improved in Portugal, Romania and Switzerland where the rates fell by 7.4, 8.5 and 0.8 ppt. The share of deprived children at the bottom end of the income distribution increased in more than half the countries considered, namely by 6.3% in Belgium, 0.9% in Bulgaria, 18.6% in Greece, 8.4% in Italy, and 19.6% in Slovakia. On the other hand, it declined by 11.5 % in Portugal, 12.7% in Romania and 2.2% in Switzerland.

Figure 8 – Percentage of children living in households which cannot afford child-specific items relating to deprivation in educational resources, 2009 and 2013



Source: Author's calculations based on EU-SILC 2009 & 2013

The proportion of children at the bottom end of income distribution living in a household unable to afford a suitable place to study or do homework has increased between 2009 and 2013 in all the countries considered with the exception of Portugal where it declined by 8.4ppt. The highest increase took place in Greece and Romania, by 24ppt for both countries. In Bulgaria in 2013, 86% of children in the poorest decile were lacking a suitable place to study or do homework. A similar trend prevails when the total child population is considered. In most countries, with the exception of Portugal, Switzerland and the Slovak Republic, the proportion of children living in a deprived household (in terms of having a place to do their homework) increased between 2009 and 2013, with the highest rise taking place in Bulgaria, from 20% in 2009 to 43.1% in 2013.

When deprivation with relation to child healthy eating is considered, most of the countries show an increasing trend (Figure 9). The share of children living in households deprived of one meal with meat or protein at least once a day increased in Bulgaria, Greece, Italy, Romania and Slovakia. In Bulgaria nearly every child in the bottom end of the income distribution lives in a deprived household (94.2%). In Slovakia, it is at least half. The greatest increase between 2009 and 2013 took place in Greece, with a difference of 16.1 ppt, from 18.7% to 34.8%. The percentage of children in the poorest decile living in a household which is unable to afford fruit and vegetables once a day has increased in Belgium, Greece and Slovakia reaching 11%, 27.7% and 47.6% respectively in 2013, a difference of 4.1, 19.5 and 14.4 ppt.

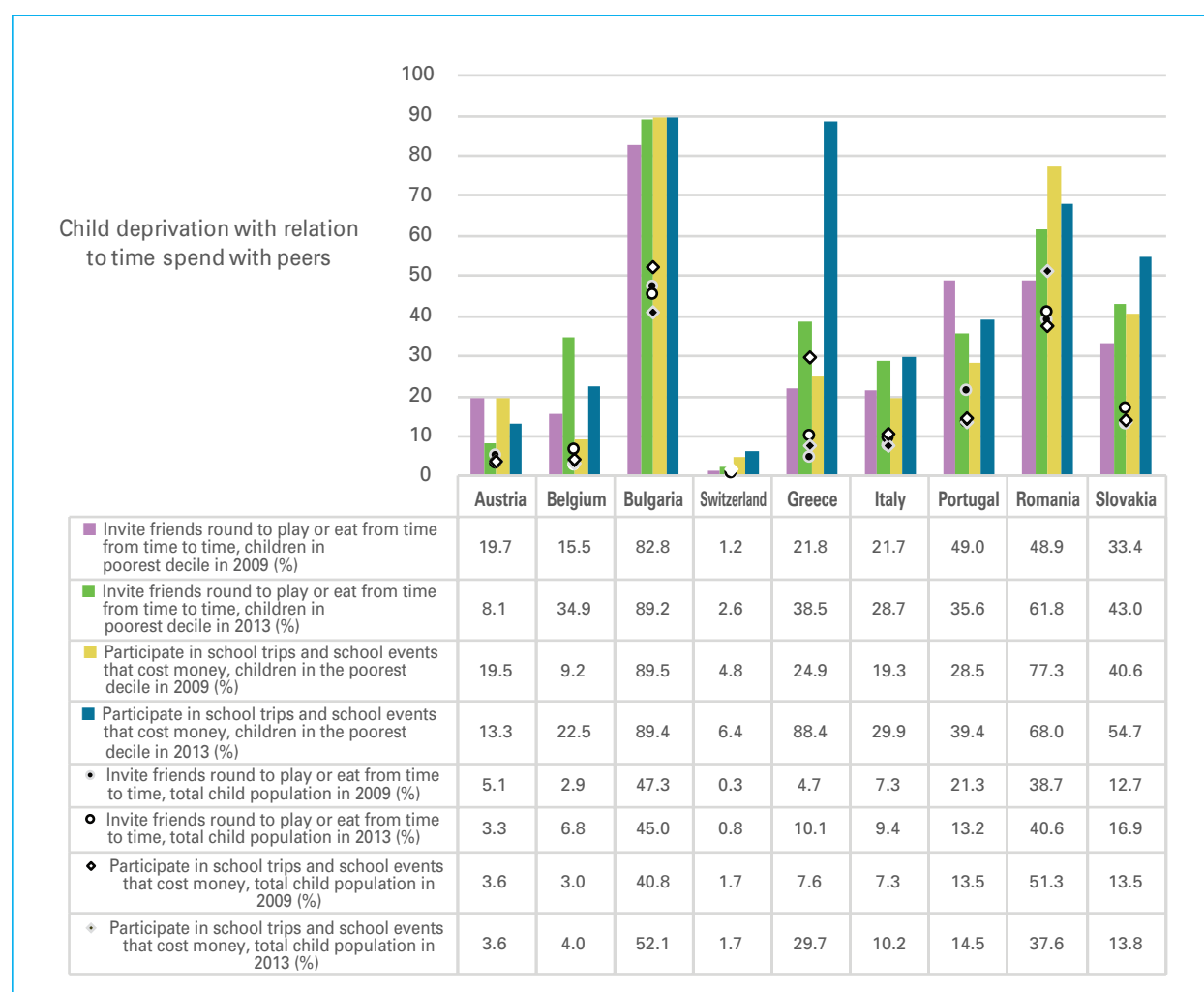
Figure 9 – Percentage of children living in households deprived of one meal with meat, chicken or protein, or fruit and vegetables at least once a day, 2009 and 2013 (%)



Source: Author's calculations based on EU-SILC 2009 & 2013.

Children in the poorest decile also face deprivation in relation to time spent with peers as they live in households not able to finance school trips or events, or unable to invite children's friends to play or eat from time to time (Figure 10). In countries such as Romania and Bulgaria, the proportion was high to start with and further increased over the time period considered, by 12.9 and 6.3ppt reaching 61.8% and 89.2%. The share of the poorest children unable to invite friends to play for financial reasons has more than doubled in Belgium between 2009 and 2013 (from 15.5 to 34.9%) and also increased considerably in the Slovak Republic (from 33.4% to 43%) and Italy (from 21.7% to 28.7%). Most of the poorest children in Bulgaria and Greece are unable to attend school trips or events because their households cannot afford it, with rates as high as 89.4% and 88.4% respectively.

Figure 10 – Percentage of children in the poorest decile living in households unable to finance school trips or events, or which cannot afford for their children to invite their friends to play or eat from time to time in 2009 and 2013 (%)



Source: Author's calculations based on EU-SILC 2009 & 2013.

5. CONCLUSIONS

In the context of increasing child poverty, deprivation rates and the relative child income gap, and with the most economically vulnerable children hit extensively by the crisis (Chzhen 2014), this paper set out to understand who are the children left behind in the lowest decile, in the bottom end of the income distribution. Further, it assesses the relative disadvantage for children living in migrant, low work intensity, low education households, with a lone parent and in a large family. It also examines how being in the bottom 10th percentile translates into child deprivation.

The analysis of the composition of the children at the bottom end of the income distribution illustrates that households with a lone parent, at least one migrant member, low work intensity, low education or large families are overrepresented in the first decile to a different degree in European countries. This is in line with the evidence that most economically vulnerable children will live in households that were already more vulnerable to poverty and have been hit the hardest by the economic downturn (Chzhen 2014).

In most European countries, a disproportionately large number of children in the bottom decile live in a migrant household. In Austria, Belgium, Cyprus, Luxembourg, the Netherlands, Sweden and Switzerland, the proportion was higher than 50% in 2013. On average, 1 in 10 children in the poorest decile lives in a lone parent household and at least 1 in 5 of European children in the poorest decile lives in a low educational attainment household. The vast majority of European children in the poorest decile are living in households with low work intensity. Also the proportion of the poorest children in low work intensity households is much higher than for the child population as a whole.

A look into differences in the probability of being in the poorest decile associated with one of these household types reveals that different household characteristics are important to different degrees in determining relative disadvantage in different European countries. However, the relative disadvantage for children living in a low work intensity household is particularly strong and consistent across all the European countries considered. Hence, children in low work intensity households, holding other characteristics constant, are more likely to fall into the poorest decile than children living in households with work intensity that higher or is equal to 20%. Differences in the probability of being in the bottom income decile by household work intensity is highest in Slovenia, closely followed by Slovak Republic and Estonia.

To what extent are the children in the bottom end of the income distribution deprived and how does deprivation in different dimensions relate to childhood experience? The analysis reveals immense differences in living standards for children across Europe. The proportion of children living in deprived households differs across European countries with the lowest being 4.9% in Switzerland and highest reaching approximately 60% in Bulgaria. In all the European countries included in the analyses, at least 1 in 5 children in the poorest decile lives in a deprived household. Furthermore, there is a substantial gap between material deprivation rates for the total child population and the children in the poorest decile. It is substantially higher in countries such as Greece, Portugal and Slovakia where the rates are respectively 88%, 73.6% and 76.5% for children in the poorest decile and 39.9%, 29.2% and 25.5 % for the total child population.

A closer look at the different dimensions of deprivation at the child-specific level, reveals what living in the poorest decile means for children's everyday lives. Children in the bottom end of the income distribution are prone to a lack of a suitable place to study or do homework. In most countries considered, at least 20% of children at the bottom of the income distribution lack books at home suitable for their age. The shares of children in the poorest decile living in a household that cannot afford fruit and vegetables daily or one meal with meat or protein at least once a day are worryingly high. Almost 50% of the poorest children in the Slovak Republic live in a household that cannot afford to eat fruit and vegetables once a day. In Croatia, Greece and Romania it is 1 in 3 children in the bottom 10th percentile.

Children in the poorest decile can also be considered to be deprived in relation to social aspects such as insufficient resources at home to provide regular leisure activity or to invite friends to play or eat from time to time, or to participate in school trips and school events that cost money. In Switzerland, at least 15% of children from the poorest families live in households which cannot afford regular leisure activity for their children. The proportion of children at the bottom end of the income distribution living in households unable to afford items understood to be necessary or desirable for an 'acceptable' standard of living increased between 2009 and 2013 in most cases analysed here.

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ANNEX

Table A1 – Share of all children and children in the poorest decile living in large families in 2013

Country	Share of all children living in large families	Share of children in poorest decile living in large families
Germany	23.2	18.2
Malta	11.0	24.0
Slovenia	18.9	26.2
Italy	15.6	27.2
Estonia	20.4	29.0
Czech Republic	16.0	30.4
United Kingdom	25.7	30.8
Portugal	13.1	32.6
Latvia	20.0	33.1
Iceland	33.3	35.7
Spain	15.3	37.2
Austria	26.6	38.2
Cyprus	27.0	38.5
Greece	27.4	39.5
Poland	21.9	40.6
Norway	31.7	40.8
Denmark	26.3	41.1
Ireland	34.6	42.4
Lithuania	18.9	43.1
Switzerland	24.2	43.3
Belgium	32.1	44.6
Luxembourg	33.5	45.4
France	27.9	45.9
Croatia	30.6	46.6
Hungary	29.4	47.9
Sweden	30.4	48.3
Finland	34.1	49.8
Slovakia	25.5	51.7
Romania	21.8	54.1
Bulgaria	16.8	56.5
Netherlands	31.2	63.3

Note: sorted by the lowest share of children in poorest decile living in large families

Table A2 – Proportion of all children and children in the poorest decile living in a lone-parent household in 2013

Country	Share of all children living in a lone parent household	Share of children in the poorest decile living in a lone parent household
Romania	8.7	9.0
Croatia	9.1	10.7
Poland	11.0	14.3
Greece	6.8	15.5
Cyprus	8.7	17.3
Portugal	17.8	18.7
Slovakia	12.5	18.9
Netherlands	13.0	19.4
Spain	12.0	20.5
Switzerland	10.0	20.9
Slovenia	10.5	21.8
United Kingdom	23.0	23.1
Italy	12.2	24.5
Malta	18.1	26.8
Finland	14.0	28.7
Austria	16.4	29.6
Hungary	16.2	31.0
Bulgaria	17.7	37.0
Czech Republic	14.3	37.4
France	15.9	37.4
Luxembourg	13.0	38.0
Ireland	19.9	38.3
Belgium	17.9	38.4
Estonia	17.9	40.5
Latvia	26.2	42.2
Sweden	17.7	42.4
Denmark	17.6	42.4
Germany	15.6	43.5
Lithuania	24.7	45.9
Iceland	18.6	46.8
Norway	18.0	55.7

Note: sorted by the lowest share of children in poorest decile living in a lone parent household

Table A3 – Percentage of all children and children in the poorest decile living in a household that cannot afford child specific items in 2013

Household cannot afford:	Books at home suitable for their age (%)		One meal with meat, chicken or fish (or vegetarian equivalent) at least once a day (%)		Fruit and vegetables once a day (%)	
	Children in the poorest decile	Total child population	Children in the poorest decile	Total child population	Children in the poorest decile	Total child population
Austria	–	–	–	–	–	–
Belgium	19.2	4.9	14.0	2.3	11.0	2.1
Bulgaria	84.9	46.9	94.2	45.1	86.3	43.0
Switzerland	0	0.3	3.0	1.8	0.0	0.1
Greece	43.2	9.1	34.8	7.8	27.7	5.0
Croatia	36	5.1	29.8	6.0	26.3	5.2
Italy	28.6	10.0	20.6	6.4	10.7	3.1
Portugal	22.12	5.6	11.2	2.2	5.6	1.4
Romania	52.8	24.6	49.3	20.1	32.0	15.4
Slovakia	48.4	11.3	55.8	17.0	47.6	13.1

Household cannot afford:	Some new (not second hand) clothes (%)		Invite friends round to play or to eat from time to time (%)		Regular leisure activity (%)	
	Children in the poorest decile	Total child population	Children in the poorest decile	Total child population	Children in the poorest decile	Total child population
Austria	–	–	8.1	3.3	22.1	10.0
Belgium	32.3	8.17	34.9	6.8	41.5	9.0
Bulgaria	88.5	38.97	89.2	45.0	85.9	55.1
Switzerland	3.0	0.74	2.6	0.8	15.6	3.8
Greece	9.8	1.48	38.5	10.1	52.8	14.5
Croatia	45.0	10.74	34.3	9.3	33.9	7.7
Italy	29.7	11.76	28.7	9.4	42.2	16.7
Portugal	40.7	14.52	35.6	13.2	53.1	24.3
Romania	61.1	29.91	61.8	40.6	92.7	62.6
Slovakia	60.9	17.37	43.0	16.9	47.6	11.1

Household cannot afford:	Suitable place to study or do homework (%)		Participate in school trips and school events that cost money (%)	
	Children in the poorest decile	Total child population	Children in the poorest decile	Total child population
Austria	–	–	13.3	3.6
Belgium	38.1	11.2	22.5	4.0
Bulgaria	86.0	43.1	89.4	52.1
Switzerland	5.8	1.8	6.4	1.7
Greece	48.8	21.5	88.4	29.7
Croatia	45.0	10.8	47.7	9.2
Italy	31.9	14.3	29.9	10.2
Portugal	19.3	8.6	39.4	14.5
Romania	51.3	26.0	68.0	37.6
Slovakia	28.1	6.2	54.7	13.8